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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,402

06/26/2006

Daisuke Oohira

2006\_0776A

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7590

02/25/2009

WENDEROTH, LIND & PONACK, L.L.P.

1030 15th Street, N.W.,

Suite 400 East

Washington, DC 20005-1503

EXAMINER

FIERRO, ALICIA

ART UNIT

PAPER NUMBER

4121

MAIL DATE

DELIVERY MODE

02/25/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-34 are pending in the instant application, filed on June 26, 2006. Furthermore, according to the *Amendments to the Claims*, filed January 12, 2009, claim 34 was added,

### ***Priority***

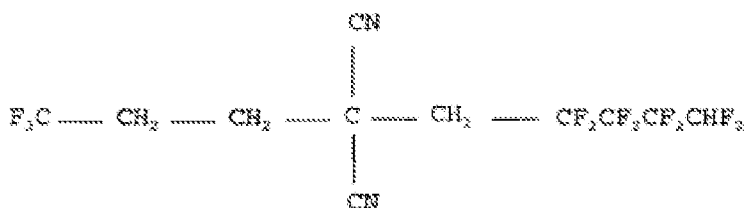
2. The instant application is a national stage entry of PCT/JP2004/19692, filed December 22, 2004, which claims priority to Japanese Patent Application No. 2003-431908, filed December 26, 2003; Japanese Patent Application No. 2004-036230, filed February 13, 2004; and Japanese Patent Application No. 2004-283540, filed September 29, 2004.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on June 26, 2006 was in compliance with the provisions of 37 CFR 1.97 and 37 CFR 1.98. Accordingly, this IDS document was considered and a signed copy of form 1449 has been enclosed herewith. Additionally, documents marked with the notation "Abs only" have been considered only to the extent of their abstracts and any English language information present, as the remainder of the information was either not provided or not translated into English.

***Restrictions/Elections***

4. Applicant's election of Group II (i.e. compounds and pesticidal composition of said compounds wherein Q is alkyl, alkenyl, or alkynyl, claims 1-11 and 14-33) in the reply filed on January 12, 2009 is acknowledged. Further, Applicant's election of the compound 2-(2,2,3,3,4,4,5,5-octafluoropentyl)-2-(3,3,3-trifluoropropyl)malonitrile in the same reply is acknowledged. The elected species is a compound of Formula (I) wherein R is 2,2,2-trifluoroethyl and Q is 1,1,2,2,3,3,4,4-octafluorobutyl. The elected compound has the following structure:



5. Claims 1-3, 5-11, and 14-34 read on the elected species. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

6. Claims 4 and 12-13 are withdrawn as being drawn to non-elected subject matter.

7. MPEP § 803.02 provides guidelines for election of species in Markush-type claims. These guidelines were followed for the search and examination detailed herein. The elected species was not found to be allowable (Sections 9-13). Therefore, the Markush-type claims were rejected and the subject matter drawn to nonelected species held withdrawn from further consideration. Claims 1-3, 5-11, 14-32 and 34 were further examined, pursuant to MPEP §

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803.02, to the extent necessary to determine patentability. The search was limited to the elected species. It has been determined that the entire scope claimed is not patentable.

***Claim objections***

8. Claims 1-3, 5-11, 14-32, and 34 are objected to for containing non-elected subject matter.

***Claim Rejections – 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

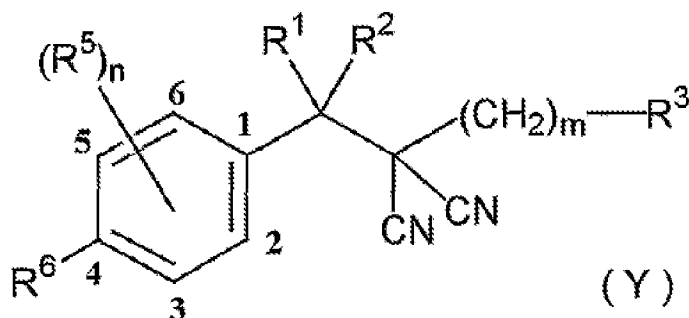
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-3, 5-11, and 14-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/090320 (cited by applicant in IDS, publication date of 11/14/02) in view of Key et al. "Fluorinated Organics in the Biosphere" *Environmental Science & Technology*, vol. 31 (9), 1997, pages 2445-2454 and Hiyama *Organofluorine Compounds: Chemistry and Applications*, Springer, 2000.

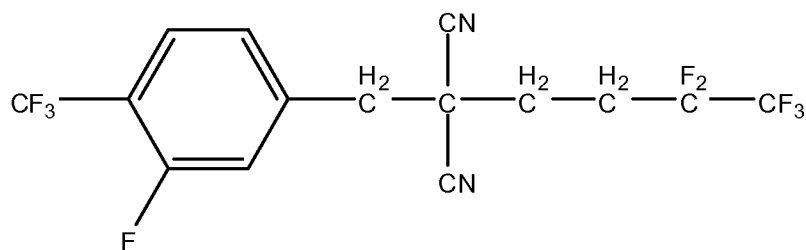
12. WO 02/090320 discloses malonitrile compounds which are very structurally similar to the instantly elected compound and pesticidal compositions of said compounds. The compounds taught by the '320 publication have the following generic structure:



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13. Specifically, compound 138 is an obvious variant of the instantly elected compound.

See Table 1, Compound 138, page 86 wherein  $R_1$  and  $R_2$  are hydrogen,  $m$  is 2,  $R_3$  is  $CF_2-CF_3$ ,  $R_5$  is 3-F, and  $R_6$  is  $CF_3$ . These substitutions create the following compound:



14. The compound in the '320 publication differs from the instantly elected compound insofar as the second  $CH_2$  in the "m" group is not fluorinated and  $R_3$  contains one less  $CF_2$  group than the "Q" chain in the instantly elected compound. Additionally, the fluorinated phenyl ring in compound Y above is substituted for a  $CH_2$  group in the "R" chain of the instantly claimed compound.

15. Key et al. discuss the increase in use of organofluorine compounds and the properties that such compounds possess which makes them desirable for use. Specifically, fluorinated organic compounds are particularly stable with "the strength of the carbon-fluorine bond contribut[ing] to the stability of fluorinated molecules" (page 2445, column 2, lines 11-12). Additionally, Key et al. disclose that fluorinated aromatic compounds can be subject to oxidative attack in aerobic environments, which yields transformation products that may or may not defluorinate. These products have the potential to be toxic (page 2450, column 2, lines 5-8). These properties would have given *prima facie* motivation to one of ordinary skill in the art at the time the invention was

made to replace the fluorinated phenyl ring in Compound Y taught by the '320 publication with the CH<sub>2</sub> group of the instantly elected compound (in order to decrease toxicity of any potential transformation products), as well as to add an additional CF<sub>2</sub> group to the Q chain (in order to increase the stability that is conferred upon a compound by additional carbon-fluorine bonds).

16. Hiyama teaches the general chemistry behind fluorinated organic compounds, including information on their properties, and specifically their stabilities. Table 1.10 lists data on stabilization energies of various substituted methyl radicals. Hiyama states that when a carbon radical is substituted by either one or two fluorine atoms, the fluorine contributes to the stabilization of the molecule. However, the addition of three fluorines destabilizes the radical due to the inductive effect of the fluorine atoms. These statements are supported by the stabilization energy data provided in Table 1.10 (page 10). The information taught by Hiyama would have given *prima facie* motivation to one of ordinary skill in the art at the time the invention was made to replace the CF<sub>3</sub> group at the end of the R<sub>3</sub> chain of compound 138 in the '320 publication with the CHF<sub>2</sub> group used in the Q chain of the instantly elected compound.

### ***Double Patenting***

17. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined



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application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

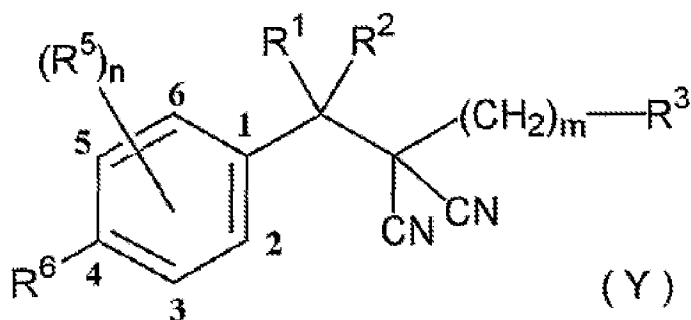
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

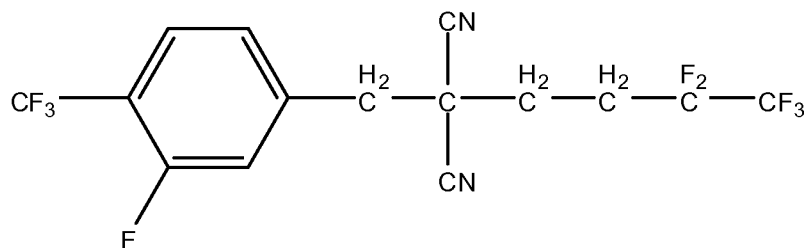
18. Claims 1-3, 5-11, and 14-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 and 7 of U.S. Patent 7,011,838, in view of Key et al. "Fluorinated Organics in the Biosphere" *Environmental Science & Technology*, vol. 31 (9), 1997, pages 2445-2454 and Hiyama *Organofluorine Compounds: Chemistry and Applications*, Springer, 2000. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons below.

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19. Claims 1-4 and 7 of 'the '838 patent are drawn to a malonitrile compound of general formula (Y) and a pesticide composition of said compound with an additional carrier. The compounds taught by the '838 patent have the following generic structure:



20. One of ordinary skill in the art would have been motivated, at the time the invention was made, to make the instantly elected species and pesticide composition thereof because Compound 138, listed as a specific embodiment of formula (Y) in the specification, is an obvious variant of the instantly elected compound. See Table 1, Compound 138, page 86 wherein R<sub>1</sub> and R<sub>2</sub> are hydrogen, m is 2, R<sub>3</sub> is CF<sub>2</sub>-CF<sub>3</sub>, R<sub>5</sub> is 3-F, and R<sub>6</sub> is CF<sub>3</sub>. These substitutions create the following compound:



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21. The compound in the '838 patent differs from the instantly elected compound insofar as the second CH<sub>2</sub> in the "m" group is not fluorinated and R<sub>3</sub> contains one less CF<sub>2</sub> group than the "Q" chain in the instantly elected compound. Additionally, the fluorinated phenyl ring in compound Y above is substituted for a CH<sub>2</sub> group in the "R" chain of the instantly claimed compound.

22. Key et al. discuss the increase in use of organofluorine compounds and the properties that such compounds possess which makes them desirable for use. Specifically, fluorinated organic compounds are particularly stable with "the strength of the carbon-fluorine bond contribut[ing] to the stability of fluorinated molecules" (page 2445, column 2, lines 11-12). Additionally, Key et al. disclose that fluorinated aromatic compounds can be subject to oxidative attack in aerobic environments, which yields transformation products that may or may not defluorinate. These products have the potential to be toxic (page 2450, column 2, lines 5-8). These properties would have given *prima facie* motivation to one of ordinary skill in the art at the time the invention was made to replace the fluorinated phenyl ring in Compound Y taught by the '838 patent with the CH<sub>2</sub> group of the instantly elected compound (in order to decrease toxicity of any potential transformation products), as well as to add an additional CF<sub>2</sub> group to the Q chain (in order to increase the stability that is conferred upon a compound by additional carbon-fluorine bonds).

23. Hiyama teaches the general chemistry behind fluorinated organic compounds, including information on their properties, and specifically their stabilities. Table 1.10 lists data on stabilization energies of various substituted methyl radicals. Hiyama states the when a carbon radical is substituted by either one or two fluorine atoms, the fluorine contributes to the stabilization of the molecule. However, the addition of three fluorines destabilizes the radical

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### ***Conclusion***

24. No claims are allowed.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALICIA L. FIERRO whose telephone number is (571)270-7683. The examiner can normally be reached on Monday - Thursday 6:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Nolan can be reached on (571)272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF

/Patrick J. Nolan/

Supervisory Patent Examiner, Art Unit 4121